STATE OF DELAWARE
DEPARTMENT OF NATURAL RESOURCES
AND ENVIRONMENTAL CONTROL
DIVISION OF AIR AND WASTE MANAGEMENT
715 GRANTHAM LANE
NEW CASTLE, DELAWARE 19720-4801

WASTE MANAGEMENT SECTION

TELEPHONE: (302) 323 - 4540

100516

March 4, 1994

Mr. Paul Johnston
Standard Chlorine of Delaware, Inc.
P.O. Box 319
Governor Lea Road
Delaware City, Delaware 19706-0319

RE: Approval of Feasibility Study
Standard Chlorine of Delaware, Inc. Superfund Site
Delaware City, New Castle County, Delaware

Dear Mr. Johnston:

The Department of Natural Resources and Environmental Control has reviewed the draft (February 1993) and revised (May 1993) Feasibility Study for the Standard Chlorine of Delaware, Inc. (SCD) Superfund site; Department and EPA comments on both documents; and SCD's response to comments on the draft document (April 30, 1993). The Department also participated in meetings on April 20, 1993, and May 10, 1993, regarding the Feasibility Study. Based on the activities described above, the Department approves the revised Feasibility Study with the following conditions and qualifications:

1. Pursuant to the Department's comment letter of March 31, 1993, and our meetings of April 20, 1993, and May 10, 1993, to discuss comments and responses on the Feasibility Study, pre- and post-remediation ecological monitoring of the site must be conducted. This activity was not clearly discussed in the narrative of the revised Feasibility Study.

2. Wetland restoration after remediation must be conducted. Based upon our telephone conversations of November 23, 1993, and SCD's letter of November 23, 1993, the Department understands that the wetlands restoration work described in the Feasibility Study is that discussed in the document text and that the Cost Table 5-5 for Alternative 4B has been revised per the attachment to the letter. The Department considers the November 23, 1993, letter (attached) to be part of the approved Feasibility Study.

3. Contrary to the Department's comment letter of March 31, 1993, remedial or additional investigative measures to address the contamination in the area of the effluent pipeline were not included in the revised Feasibility Study report. Additional investigation and possibly remediation of this area will be required during the Remedial Design/Remedial Action phase of the project.

4. Remediation of the surface water in the sedimentation basin is not discussed in detail. The Department assumes that the water in the basin will be pumped to the on-site air stripper and then to the on-site waste water treatment plant for all alternatives except No Action.

5. It is the Department's opinion that contradictory conclusions about compliance with RCRA ARARs for the ultimate disposal of soil and sediments at the site can be drawn based on various interpretations of the different alternatives presented in the Feasibility Study.

6. Figure 5-3 (Alternative 3) identifies DNAPL recovery wells, but there is no discussion in the narrative on page 5-21 concerning DNAPL recovery. The Department assumes that DNAPL recovery is a component of Alternative 3.

7. The narrative describing Alternative 3 on page 5-25, under the heading of Soil Consolidation, discusses in situ stabilization/solidification of excavated soils in the sedimentation basin. Also on page 5-25, under the heading Ex-situ Stabilization, the narrative states that excavated soils and sediments would be stabilized ex-situ and then later placed in a reconstructed sedimentation basin. The Department assumes that in Alternative 3 excavated soil and sediments will be stabilized ex situ and then placed in the reconstructed sedimentation basin.

8. In the detailed discussion of Alternative 3 (page 5-27) the use of a silt fence as a component of the remedial alternative is not discussed. However, the fence is delineated on Figure 5-6. The Department assumes that the use of a silt fence is a component of Alternative 3.

9. The narrative discussing Alternatives 4A and 4B on page 5-45, under the heading Soil Removal, states that the excavated soils will undergo in situ stabilization/solidification. Based upon the context of the narrative, the Department assumes that the soils will be thermally treated instead of in situ stabilized/solidified into the sedimentation basin.

10. It is the understanding of the Department that the number and placement of dense non-aqueous phase liquid (DNAPL) recovery wells will be determined during the Remedial Design phase of the project.

11. Based upon our telephone conversation of November 23, 1993, the Department understands that treatment of recovered DNAPL from the recovery wells is expected to involve the placement of the recovered material in drums and proper disposed by SCD.

12. Page 1-4 states that recovered groundwater goes to the on-site wastewater treatment plant. It is the Department's understanding that recovered groundwater is first conveyed to the on-site air stripper, where the off-gases are conveyed to the boilers, prior to the recovered water going to the wastewater treatment system.

13. Page 4-17 states that "proper materials handling procedures, such as those employed during the emergency response efforts of 1986, will be employed..." Please be aware that any work conducted in the RD/RA process will require the submission and acceptance of a detailed Health and Safety Plan to monitor and protect the workers.

14. Including a recommendation for implementation of a specific alternative for the site in a Feasibility Study report prepared by a Potentially Responsible Party is not appropriate.

15. Typographical errors and drafting omissions (such as the depiction of product recovery wells on Figures 5-1, 5-2, 5-3, and 5-7) in the document are recognized as such.

If you have any questions, please contact me at 323-4540.

Sincerely,

Anne V. Hiller
Environmental Scientist III
Superfund Branch

AVH:dew
AVH93103.wp

Attachments

pc: N.V. Raman, w/o attachment
Karl Kalbacher, w/o attachment
Kate Lose (3HW42)

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STD CLOR DECI

STANDARD CHLORINE OF DELAWARE, INC.

GOVERNOR LEA ROAD ● P.O BOX 319 ● DELAWARE CITY, DELAWARE 19706

November 23, 1993

Ms. Anne Hiller
DNREC
Division of Air & Waste Management
715 Grantham Lane
New Castle, DE 19720

RE: Feasibility Study Report

Dear Ms. Hiller:

Please find enclosed a revised copy of Table 5-5 "Capital Costs for Alternative 4 - Option B" from the referenced document. As discussed, the quantities for the Wetlands Reconstruction task have been revised to more accurately reflect the proposal for remediation of the wetlands presented on page 5-51 of the text. These quantities assume that in addition to the reconstruction along the eastern shoreline of the unnamed tributary proposed in Option A, that reconstruction will be required on the western shoreline and within the current stream to restore the channel/waterway.

Feel free to call should you have any questions regarding these revisions.

Very truly yours,

Paul Johnston
Manager, Environmental

PJ/dm
pc R. J. Touhey
K. Lose (EPA - 3HW42)

TABLE 5-5 (cont'd)

Capital Costs for Alternative 4
Standard Chlorine of Delaware, Inc.
Delaware City, Delaware

Tasks	Quantity	Unit Cost ($)	Total Costs ($)
Option B			
1 Excavation			
a. Surface and Subsurface Soils	12,500 cy	15 /cy	187,500
b. Wetlands Sediments	12,000 cy	19 /cy	225,000
c. Basin Sediments	3,350 cy	26 /cy	87,100
2 Site Preparation		Lump Sum	50,000
3 Thermal Desorption Treatment (30,250 cy @ 100 lbs/cf)	40,800 ton	180 /ton	7,344,000
4 Basin Reconstruction			
a. Liner and Leachate Collection System	8,700 sy	40 /sy	348,000
b. Multilayer Cap System	7,400 sy	46 /sy	340,400
5 Backfill of Basin with Treated Sediments (includes soil piles, and trench soils)	23,650 cy	3 /cy	70,950
6 Backfill - Surface and Subsurface Soil Areas			
a. Treated Soils	7,800 cy	3 /cy	23,400
7 Cap Systems			
a. Western Drainage Gulley (FML)	1,400 sy	46 /sy	64,400
b. Eastern Drainage Ditch (asphalt)	300 sy	12 /sy	3,600
c. Railroad Track Area (asphalt)	4,500 sy	12 /sy	54,000
d. Catch Basin (asphalt)	700 sy	12 /sy	8,400
8 Wetlands Reconstruction [1]			
a. Backfill	3,800 cy	18 /cy	68,400
b. Fine Grading	11,000 sy	1 /sy	11,000
c. Revegetation	11,000 sy	7 /sy	77,000
9 Interceptor Trench		Lump Sum	1,430,100
10 Product Recovery Wells	4	2,000 ea	8,000
11 Silt Fencing	2,300 ft	15 /ft	34,500
12 Implementation and Verification Sampling		Lump Sum	100,000
13 Erosion and Sedimentation Controls	4,400 ft	10 /ft	44,000
14 Modifications to Groundwater Treatment System		Lump Sum	100,000
15 Deed/Groundwater Restrictions and Access Agreements		Lump Sum	25,000

TABLE 5-5 (cont'd)

Capital Costs for Alternative 4
Standard Chlorine of Delaware, Inc.
Delaware City, Delaware

Tasks	Quantity	Unit Cost ($)	Total Costs ($)
SUBTOTAL			10,704,750
14 Administrative and Construction Services (20%)			2,140,950
15 Contingency (25%)			2,676,188
TOTAL (rounded)			15,522,000

Implementation requirements for technical issues, testing, plans, approvals, engineering, etc. is not included in the construction total and could range between $200,000 - $300,000.

NOTES:

1 Unit quantities for wetlands reconstruction under Option B are calculated to account for reconstruction that may take place along 1) the eastern shoreline (same quantity as for Option A), 2) the western shoreline, and 3) reconstruction that may be necessary to preserve the current stream channel/waterway. Items 2) and 3) have been approximated by assuming that 25% of the wetlands covered under Option B, but not including those in wetlands Option A (already included in Item 1), may require reconstruction.

Mid Atlantic
Wood Preservers Inc.

ORIGINAL
(Red)

101516

March 27, 1980

Mr. Ray Riggin:
Assistant Regional Chief
Enforcement Division
State Water Resources Administration
Tawes State Office Building
Annapolis, Md. 21401

Re: C-079-145-C

Dear Mr. Riggin,

As we recently discussed personally, due to continued delays incurred by American Recovery Systems Inc., in getting approval for disposal of our contaminated soil, a further 30 day extention of your order to comply is requested.

Sincerely,

Cary Carlson

Cary P. Carlson
General Manager

CPC:ak
CC: Richard Block

AR100119

OSMOSE TREATMENT SPECIALISTS

P.O. BOX 58 SHIPLEY AVENUE HANMANS, MARYLAND 21077 PHONE 301 761 4000 (BALT.) 301 261 2681 (WASH.)